STCG Subcon Subgroup Meeting Minutes

April 13, 1999

Introductions/Announcements (Fred Serier)

Fred opened the meeting and introductions were made around the room.

Rob Yasek provided information on the TechCon/ITRD Vendor Forum for the Tank Farms Surface Infiltration Project scheduled for May 4-6, 1999 at the Hills Street Conference Center in Richland. Contact Rob (372-1270) or Pete Molton (375-6485) if you would like to attend. The TechCon website address is http://web1.ead.anl.gov/techcon/projects/hanford/tanks.

Review Minutes from Last Meeting (Facilitator)

The facilitator reviewed the minutes from the March 16 meeting, and no changes were requested.

Endorsement of NABIR Field Research Center Proposal (Tyler Gilmore)

DOE's Office of Biological and Environmental Research (OBER) proposes a Field Research Center (FRC) as part of a coordinated laboratory and field research effort to understand the biological and biogeochemical processes that contribute to bioremediation of DOE's metals- and radionuclide-contaminated sites. The FRC will provide directed field research at Hanford (or other selected site), but with applicability to other DOE sites. PNNL will be submitting a proposal to be selected as the NABIR FRC. Details were provided at the March 16 Subgroup meeting.

This is a 10-year program, with $3 million per year available for operation of the FRC. Other programs would fund actual research projects using the Center. The first year will focus mainly on site characterization work. The work will be conducted in phases, and this Subgroup will be briefed on all future activities.

Proposals are due on June 1, and the award will be made in October. The environmental analysis was prepared and submitted on April 13. The selected site is in the 100-H Area, and Wayne Soper (Ecology) is aware of it. The proposal team requested Subgroup endorsement of their proposal, and everyone present endorsed it.

Review Draft FY 2000 S&T Needs Package (Mike Truex)

Jerry White provided some introductory remarks about the two processes going on right now. The normal process with the Subgroups and the Management Council reviewing the S&T needs

packages is happening now. In addition, we are involved in the process of getting the new Groundwater/Vadose Zone (GW/VZ) S&T needs into the GW/VZ Project Baseline Summary (PBS). Today we're focused on the new GW/VZ S&T needs, which will be added to our existing S&T needs package. The question is whether we agree that this package should go forward.

Four of the eight technical elements of the GW/VZ Integration Project S&T Roadmap are inventory, vadose zone, groundwater, and river. S&T needs are identified under each of these technical elements. The project used a rigorous process with broad participation to identify the underlying technical gaps that form the basis for the project S&T needs. The objectives of each technical element were presented, along with the primary technical gaps. They are also trying to link with the existing TWRS vadose zone S&T needs.

At his point in the meeting, Fred Serier asked the voting members if their calendars were cleared for the Subcon Science Needs Workshop on April 22. Everyone said yes.

Mike noted that comments on the GW/VZ S&T needs were received form Gary Ballew and Barbara Harper. He also mentioned that the Cultural/Stakeholder Concerns sections of the needs statements will be filled out as we go through the needs process.

Priority ratings are now based on the Paths to Closure (PtC) and have been estimated by the ER projects (1=critical importance to PtC, 2=significant importance to PtC, 3= important to PtC). They have also noted whether the needs are technology needs (gaps) or technology opportunities (enhancements).

Mike Thompson is now the Hanford representative on the SCFA User Steering Group. Their job is to review the SCFA work packages responding to all the sites' S&T needs packages.

Updates on ITRD Projects (Arlene Tortoso)

Carbon Tetrachloride ITRD Project

The Carbon Tetrachloride ITRD meeting was held on March 29-30. They presented a list of all the remediation technologies that are still on the list after two conference calls. Then more in-depth presentations were made. Electro-kinetics is borderline. Phyto-remediation is out. They also discussed the strategy for tackling the carbon tetrachloride plume. Groundwater, vadose zone, and DNAPLs were all discussed. They decided that they need to look at past modeling work and focus on parts of the plume. There is a 1992 report that looked at this approach, and it will be discussed at the next meeting. They will also be looking at characterization technologies at the next meeting. So far, they have only looked at remediation technologies.

Gary Ballew noted that there will be a conference call soon on characterization technologies and enabling technologies (e.g., directional drilling). The next meeting will probably be in late May.

N-Springs ITRD Project

The N-Springs ITRD meeting was held on March 31 and April 1. A status of the four treatability studies selected (groundwater modeling, soil flushing, soil stabilization, and bank stability) was provided. More work is needed on all of these. There are cost issues and questions regarding applicability to other contaminants that must be addressed. Combinations of technologies were also discussed (e.g., freeze barrier with soil flushing). It is better to do site-specific studies than lab work.

Mike Hightower will prepare the report with the recommendations. Then DOE and Ecology will review the recommendations and consider further actions.

ISRM Reoxygenation Study (Mark Williams)

Mark discussed the fate of the anoxic plume down-gradient from the ISRM zone. He presented the approach in a Subgroup meeting a year ago. They have been monitoring dissolved oxygen at the site, and a dissolved gas tracer test was done to characterize trapped air in the aquifer. They encountered lots of heterogeneities, and additional tests will be required. A new monitoring well between the redox site and the river will be done in June. Dithionite injections were done over a period of about eight months. They also did numerical modeling of the system using the STOMP code, and it worked pretty well.

The conclusions of the reoxygenation study are:

- There is 75-95% dissolved oxygen saturation for groundwater discharging to the river.
- Air entrapment from the fluctuating water table was the most reliable reoxygenation mechanism studied.
- Diffusion results in 15-20% oxygen saturation at the river.
- River water mixing within the aquifer is strongly dependent on river stage variations.

Action Items

- Send TechCon website address and agenda for May 4-6 Vendor Forum to Subgroup members (Facilitator). Done.

Attendees

Gary Ballew (Pacific Rim)
Bill Bonner (PNNL)
Craig Cameron (EPA)
Linda Fassbender (PNNL)
John Fruchter (PNNL)

Tyler Gilmore (PNNL)
Dib Goswami (Ecology)
Jim Hanson (DOE-RL/STP)
Barbara Harper (Yakama Indian Nation)
Wayne Martin (PNNL)
Scott Petersen (BHI/TA)
Paul Scott (FDH)
Fred Serier (DOE-RL/AME)
John Stanfill (Nez Perce Tribe)
K. Michael Thompson (DOE-RL/AME)
Arlene Tortoso (DOE-RL/AME)
Mike Truex (PNNL)
Jerry White (BHI)
Ray Wildung (PNNL)
Mark Williams (PNNL)
Rob Yasek (DOE-RL/ORP)

Wrap-Up (Fred Serier)

The next meeting will be held on May 11, starting at 8:30 a.m., in the Bechtel Building. Agenda items will include the following:

- Review and Endorse Final FY 2000 S&T Needs Package (Mike Truex)
- Briefing on Hanford Barrier Treatability Test (Tony Knepp or Curt Wittreich)
- SCFA Work Package Structure (Jerry White)